AIR COMMAND AND STAFF COLLEGE

AIR UNIVERSITY

HISTORICAL LESSONS OF AIR FORCE COMMUNICATIONS

by

Jay D. Custine, Civ, DAF

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Lt Col Paul E. Griffith

Maxwell Air Force Base, Alabama

December 2010

Disclaimer

The views expressed in this academic research paper are those of the author(s) and do not reflect the official policy or position of the US government or the Department of Defense. In accordance with Air Force Instruction 51-303, it is not copyrighted, but is the property of the United States government.

Abstract

The Air Force is implementing new organizational constructs and processes to fly, fight, and win in the cyberspace domain. While cyberspace brings new challenges and considerations, the Air Force has had to provide common core communications services to all Air Force users throughout its history. Leaders considering the new challenges presented by the cyber domain can learn from the issues faced by communications leaders in the past regarding centralized and decentralized communications services. This paper will use the problem-solution methodology to evaluate the rationale and challenges to centralized and decentralized Air Force communications to provide lessons learned for current and future commanders in the cyber field.

The Air Force today is implementing new organizational structures and doctrine to combat growing threats in the cyber domain. The core mission sets performed by these new cyber organizations largely consist of network attack, network defense, and operation of core communications services and infrastructure. While the emerging threat demands new approaches and paradigms to deal with the offensive and defensive aspects of cyber warfare, the development and operation of core communications services has a long tradition and history in the Air Force, dating back to the establishment of the Army Airways Communication System (AACS) in 1938. Leaders of today's Air Force must consider the lessons learned throughout this rich history of Air Force communications when determining strategies for the future in the new era of "recentralized" communications. This paper will use the problem-solution methodology to evaluate the rationale and challenges to centralized and decentralized Air Force communications to provide lessons learned for current and future commanders in the cyber field.

For a large part of Air Force history, common user communications services were provided by a centralized command structure. From 1961-1991, this centralized command structure constituted a Major Command in the Air Force. In 1991, the Air Force Communications Command (AFCC) was redesignated a Field Operating Agency (FOA) and lost its status as a Major Command (MAJCOM).[1] From 1991 until today, common user communications services have been operated and maintained largely by decentralized units, with budgetary authority and the resulting power structure focused on the individual bases and MAJCOM Communications Directorates. The Air Force Network Operations (AFNETOPS) Concept of Operations (CONOPS), approved in 2004, brought the focus on providing core services back to a centralized organizational structure, most recently placed within Air Force Space Command and 24th Air Force. This organization is now in the process of migrating core

communications services for all Air Force users into a centralized management and control scheme.

Unity of command and the issue of responsiveness of communications services to the needs of operational commanders and units has long been one of the primary issues confronting Air Force communications leaders. In the time between the founding of centralized communications services in the AACS and 1988, the Air Force seriously examined the rationale for centralized management of communications services 18 times.[2] In the majority of the challenges to centralized management of communications, the examinations were prompted by operational commanders who wanted direct control of the units or missions belonging to the centralized organization.[3] Leaders of the newly recentralized cyber mission would be naive to think these arguments and issues will not be raised repeatedly in the future as they have been in the past. In order to best understand the implications for future organizations providing centralized communications services, we must examine the circumstances surrounding the 19th review of centralized communications management, one that led to the dissolution of AFCC as a MAJCOM and established a new era of decentralized communications management in the Air Force.

In 1988, the Commander-in-Chief, Pacific Air Forces (PACAF), General Merrill A. McPeak, initiated a proposal to transfer responsibility for the 201st Combat Communications Group (CCGP), an Air National Guard unit in Hawaii, to PACAF. Gen McPeak believed that AFCC, as the gaining command for the 201st CCGP, could reallocate and reprioritize 201st CCGP assets. In response to the proposed decision brief, AFCC took a number of steps to assure PACAF leaders that they would maintain operational control of 201st CCGP assets in the event of mobilization. The AFCC response also stressed the importance of centralized management to

ensure standard operating practices, interoperable equipment, and cost effective procurement of systems. In response to the strong AFCC defense of centralized management and desire to maintain control of the 201st CCGP, General McPeak broadened his original proposal to include absorbing all theater communications units into PACAF and sent a formal program change request to HQ USAF. In this request, he also stated "it is PACAF's view that the proposed command arrangement (comm/ADP under mission rather than functional command) could be extended to other theaters and CONUS commands."[4] This proposal was subsequently rolled into an Air Staff top-down initiative as part of the Defense Management Review in 1989. This initiative ultimately resulted in the transfer of AFCC's operations and maintenance units to their gaining MAJCOMs on 1 October 1990.

The dispute in PACAF over ownership of centralized communications resources would represent an early example of the sweeping organizational changes Gen. McPeak would make later during his tenure as Chief of Staff. The objective wing concept he implemented was the result of his desire to eliminate "stovepipe" organizations that reported off-base and clearly establish the "one base, one wing, one boss" organizational concept.[5] When asked about the establishment of field operating agencies in his end of tour interview as Chief of Staff, General McPeak's answer focused on communications and included the following:

> Our product is operations. It is not intelligence. It is not communications. It is operations. So, to have an independent major command like Air Force Communications Command, how would you describe their mission? Their mission was to communicate, and communications is a vital part of what all the Air Force does, but it's not the Air Force mission, just like brain surgery is not the Air Force mission. We have got to have a hospital but we don't have to have a brain surgery major command. We say that surgery is functional support, and we put it under an operator. So in regard to communications, the actual communications elements-the physical equipment, the antennas, and the wiring and the telephones and so forth-they belong to the people who have a product, which is operations, that requires communications support.[6]

Gen. McPeak's answer provides an operational viewpoint that must be understood as we determine the focus of future organizations providing communications support. The underlying logic of Gen. McPeak stressed the supremacy of the operational mission. Although the offensive and defensive cyber mission now exists as a new Air Force operational mission, core communications services such as email that underpin daily operations for all Air Force mission sets remain a support function, secondary to the operational missions they support. The current organizational construct of AFNETOPS makes the organizations responsible for the operational cyber mission also responsible for the core communications services (support function) for all other Air Force operational missions. The subordination of core communications support services to the priorities of one particular operational mission will be a weak point for AFNETOPS in the future leading to questions about unity of command and responsiveness. The multiple operational mission communities of the Air Force, represented in the MAJCOM structures, must have an equal voice to the cyber mission in the determination of core communications service priorities and policies.

History once again provides a context for understanding how centralized communications organizations of the past tried to tackle this problem. Under AFCC's dual hat concept, communications unit commanders were dual hatted as members of the host unit staff while operationally belonging to AFCC. Division level commanders in AFCC were also dual-hatted as the MAJCOM Deputy Chief of Staff for Command, Control, Communications, and Computers for the MAJCOM their division supported.[7] This arrangement would be the functional equivalent of a modern MAJCOM/A6 functionally reporting to a chain of command in 24th Air Force. The AFNETOPS functional concept document approved in 2006 outlines the operational control of forces performing network operations and in practice forces a relationship similar to

the dual-hatted arrangement of local communications commanders under AFCC. In the

AFNETOPS CONOPS, local communications units remain under the chain of command of the

local wing, but operational control is given to centralized communications functions in the Air

Force and DoD for certain actions.[8] The AFNETOPS CONOPS does not, however, address any

dual role of the MAJCOM/A6. In order to provide the mission communities of the MAJCOMs

an equal voice in the core service process, a liaison role must be formalized. This role could

either be filled by current members of the MAJCOM staff, or by embedded 24th Air Force or

AFSPC liaison personnel at each MAJCOM.

The history of Air Force communications provides valuable lessons for current and future

leaders of the cyber community. The vast majority of junior and mid-level officers leading the

implementation of new organizations and strategies in the cyber domain grew up in an Air Force

defined by decentralized communications and the explosive growth of internet-based

technologies. These officers, soon to be tomorrow's leaders, have not had the benefit of seeing

firsthand the organizational processes and results of the centralized era under Air Force

Communications Command. If we do not critically evaluate the lessons learned throughout this

history, we are bound to repeat the same mistakes that have been made in the past.

Endnotes

[1] History, Air Force Communications Command, 1 January-31 December 1990, Vol 1, 12.

[2] Ibid., 3

[3] History, Air Force Communications Command, 1 January-31 December 1989, Vol 1, 11.

[4] History, Air Force Communications Command, 1 January-31 December 1989, Vol 1, 16.

[5] Maj Thomas A. Bussiere, "General Merrill A. McPeak: Leadership and Organizational Change." Thesis, School of Advanced Airpower Studies, 2001, 41.

[6] Gen Merrrill A. McPeak, interview by Dr. George M. Watson, Jr. and Maj Robert White, 28 Novemeber 1994, 15 December 1994, 19 December 1994, transcript, 13-14, Air Force History & Museums Program, Bolling AFB, DC.

[7] History, Air Force Communications Command, 1 January-31 December 1990, Vol 1, 11.

[8] *Concept of Operations for Air Force Network Operations*, November 2004, 29.

Bibliography

AFSPC Programming Plan 09-04. *Actions To Implement Phase 1 Of The Secretary Of The Air Force Direction To Organize Air Force Cyber Forces,* 15 June 2009.

Arwood, Sam. "Cyberspace as a Theater of Conflict: Federal Law, National Strategy and the Departments of Defense and Homeland Security." Graduate Research Project, Air Force Institute of Technology, 2007.

Bussiere, Maj Thomas A. "General Merrill A. McPeak: Leadership and Organizational Change." Thesis, School of Advanced Airpower Studies, 2001.

Concept of Operations for Air Force Network Operations, November 2004.

Gen Merrrill A. McPeak, interview by Dr. George M. Watson, Jr. and Maj Robert White, 28 Novemeber 1994, 15 December 1994, 19 December 1994, Air Force History & Museums Program, Bolling AFB, DC.

History. Air Force Communications Command, 1 January-31 December 1989.

History. Air Force Communications Command, 1 January-31 December 1990.

History. Air Force Communications Command, 1 January-31 December 1991

History. Air Force Communications Command, 1 January-31 December 1992.

History. Air Force Command, Control, Communications, and Computer Agency, 1 January-31 December 1993.